

1 CLAIMS

2 We claim:

3 1. An apparatus comprising:

4 a buffer for storing indications of interrupts generated by ports of a peripheral device, the
5 peripheral device having a plurality of ports, said apparatus for transferring interrupts
6 from the peripheral device to a host computer system, and

7 a controller for, in response to a preset condition being met, generating a control data
8 block comprising a payload portion having a plurality of fields each corresponding to a
9 different one of the ports and a header portion having an identifier for identifying the
10 control data block, moving the contents of the buffer to the corresponding fields of the
11 payload portion, and sending the control data block to the host computer system via one
12 of the ports.

13 2. An apparatus as claimed in claim 1, wherein the preset condition comprises a
14 determination that the buffer is full.

15 3. An apparatus as claimed in claim 1, wherein the preset condition comprises a
16 determination that at least a predetermined plurality of indications is stored in the buffer
17 and that a predetermined period has elapsed.

18 4. An apparatus as claimed in claim 1, wherein the preset condition comprises a
19 determination that at least one indication is stored in the buffer and that a predetermined
20 period has elapsed.

1 5. An apparatus as claimed in claim 1, wherein the header portion comprises
2 a count indicative of the number of indications included in the payload portion.

3 6. An apparatus as claimed in claim 1, wherein the header portion comprises a time
4 of day stamp.

5 7. An apparatus as claimed in claim 1, wherein the buffer comprises a first in - first
6 out memory buffer.

7 8. A peripheral device comprising apparatus as claimed in claim 1.

8 9. A data communications network interface comprising a peripheral device as
9 claimed in claim 8.

10 10. A data processing system comprising:
11 a host processing system having a memory, a data communications interface for
12 communicating data between the host computer system and a data communications
13 network, and
14 apparatus as claimed in claim 1, for controlling flow of interrupts from the data
15 communication interface to the memory of the host computer system.

16 11. A method comprising transferring interrupts from a peripheral device to a host
17 computer system, the peripheral device having a plurality of ports, the step of transferring
18 interrupts comprising:

19 storing interrupts generated by ports of the peripheral device in a buffer;
20 determining if a preset condition is met, and, in response to the preset condition being
21 met;

1 generating a control data block comprising a payload portion having a plurality of fields
2 each corresponding to a different one of the ports and a header portion having an
3 identifier for identifying the control data block;

4 moving the contents of the buffer to the corresponding fields of the payload portion; and
5 sending the control data block to the host computer system via one of the ports.

6 12. A method as claimed in claim 11, wherein the step of determining if the preset
7 condition is met comprises determining if the buffer is full.

8 13. A method as claimed in claim 11, wherein the step of determining if the preset
9 condition is met comprises determining if at least a predetermined plurality of indications
10 is stored in the buffer and if a predetermined period has elapsed.

11 14. A method as claimed in claim 11, wherein the step of determining if the preset
12 condition is met comprises determining if at least one indication is stored in the
13 buffer and if a predetermined period has elapsed.

14 15. A method as claimed in claim 11, wherein the header portion comprises a count
15 indicative of the number of indications included in the payload portion.

16 16. A method as claimed in claim 11, wherein the buffer comprises a first in - first
17 out memory buffer.

18 17. A computer program product comprising a computer usable medium having
19 computer readable program code means embodied therein for causing transfer of
20 interrupts, the computer readable program code means in said computer program product

1 comprising computer readable program code means for causing a computer to effect the
2 functions of claim 1.

3 18. A computer program product comprising a computer usable medium having
4 computer readable program code means embodied therein for causing data processing, the
5 computer readable program code means in said computer program product comprising
6 computer readable program code means for causing a computer to effect the functions of
7 claim 10.

8 19. An article of manufacture comprising a computer usable medium having
9 computer readable program code means embodied therein for causing transfer of
10 interrupts, the computer readable program code means in said article of manufacture
11 comprising computer readable program code means for causing a computer to effect the
12 steps of claim 11.

13 20. A program storage device readable by machine, tangibly embodying a program of
14 instructions executable by the machine to perform method steps for transferring
15 interrupts, said method steps comprising the steps of claim 11.